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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,340	01/22/2004	Yen-Chang Chiu	MR2707-57	3276

4586 7590 07/30/2007

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EXAMINER	
NGUYEN, TUAN HOANG	
ART UNIT	**PAPER NUMBER**
2618	
MAIL DATE	**DELIVERY MODE**
07/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/761,340	CHIU ET AL.	
	Examiner	Art Unit	
	Tuan H. Nguyen	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,13,14 and 16-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11, 13-14 and 16-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/06/2007 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haban et al. (U.S PAT. 6,779,125 hereinafter "Haban") in view of Moriyama (U.S PAT. 5,995,552).

Consider claim 1, Haban teaches a single crystal oscillator RF transmitter system comprising: a microprocessor (col. 31 lines 5-23); a local oscillator responsive to an external crystal for generating a first clock signal having a frequency in a radio frequency band (col. 31 lines 5-23); a clock switch, coupled to the local oscillator for providing a second clock signal at a lower frequency than the first clock signal to the microprocessor and a third clock signal to the converter, the third clock signal being a different frequency than the first clock signal and the second clock signal (col. 31 lines 5-42 and col. 36 lines 15-43).

Haban does not explicitly show that a converter coupled to said microprocessor for converting digital data output from the microprocessor into digital packet data to be transmitted; and a transmitter connected to an output of the converter for receiving the digital packet data and being coupled to the local oscillator for use of the first clock signal as an RF carrier for the digital packet data to be transmitted by the transmitter; wherein the microprocessor, converter, local oscillator, clock switch and transmitter are integrated on a chip.

In the same field of endeavor, Moriyama teaches a converter coupled to said microprocessor for converting digital data output from the microprocessor into digital packet data to be transmitted (fig. 3 col. 9 lines 50-56); and a transmitter connected to an output of the converter for receiving the digital packet data and being coupled to the local oscillator for use of the first clock signal as an RF carrier for the digital packet data to be transmitted by the transmitter; wherein the microprocessor, converter, local

oscillator, clock switch and transmitter are integrated on a chip (fig. 3 col. 9 lines 13-20 and 50-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, a converter coupled to said microprocessor for converting digital data output from the microprocessor into digital packet data to be transmitted; and a transmitter connected to an output of the converter for receiving the digital packet data and being coupled to the local oscillator for use of the first clock signal as an RF carrier for the digital packet data to be transmitted by the transmitter; wherein the microprocessor, converter, local oscillator, clock switch and transmitter are integrated on a chip, as taught by Moriyama, in order to provide a radio equipment and its peripheral apparatus in which harmonics generated by a digital signal are reduced and interference with a radio receiving circuit are also reduced.

Consider claim 2, Haban further teaches the clock switch comprises a frequency divider for frequency-dividing the first clock signal to generate the second clock signal (col. 31 lines 30-43).

Consider claim 3, Haban further teaches the clock switch comprises a frequency divider for frequency-dividing the first clock signal to generate the third clock signal (col. 1 lines 42-50).

Consider claim 14, Haban teaches a method for transmitting data with an RF transmitter system having a single crystal oscillator and including a microprocessor connected with a converter that is in turn connected to a transmitter, the method comprising the steps of: generating a first clock signal at a radio frequency with a crystal oscillator for providing to the transmitter a carrier signal (col. 31 lines 5-42); generating a second clock signal and a third clock signal by dividing down the first clock signal for respectively providing to the microprocessor and converter clock signals of respectively reduced frequency (col. 31 lines 5-42 and col. 36 lines 15-43).

Haban does not explicitly show that converting digital data into digital packet data by the converter for output to the transmitter; and transmitting the digital packet data modulated on the first clock signal.

In the same field of endeavor, Moriyama teaches converting digital data into digital packet data by the converter for output to the transmitter (fig. 3 col. 9 lines 50-56); and transmitting the digital packet data modulated on the first clock signal (fig. 3 col. 9 lines 13-20 and 50-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, converting digital data into digital packet data by the converter for output to the transmitter; and transmitting the digital packet data modulated on the first clock signal, as taught by Moriyama, in order to provide a radio equipment and its peripheral apparatus in which harmonics generated by a digital signal are reduced and interference with a radio receiving circuit are also reduced.

4. Claims 4-7 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haban in view of Moriyama, and further in view of Tian (U.S PAT. 6,624,710).

Consider claim 4, Haban and Moriyama, in combination, fails to teach an RC oscillator for generating the second clock signal.

However, Tian teaches an RC oscillator for generating the second clock signal (col. 1 lines 26-37).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Tian into view of Haban and Moriyama, in order to provide frequency of the output signal generated by the oscillator output signal is set as a function of a value of an included internal resistor integrated on the chip. An external resistor may be connected to the chip to allow a user to manipulate the oscillator output signal frequency.

Consider claim 5, Haban further teaches the clock switch comprises a frequency divider for frequency-dividing the first clock signal to generate the third clock signal (col. 1 lines 42-50).

Consider claim 6, Tian further teaches the RC oscillator is connected with an external resistor for tuning the second clock signal (col. 1 lines 26-37).

Consider claim 7, Tian further teaches the external resistor comprises a variable resistor (col. 2 line 66 through col. 3 line 7).

Consider claim 16, Haban teaches a method for transmitting data with an RF transmitter system having a single crystal oscillator and including a microprocessor connected with a converter that is in turn connected to a transmitter, the method comprising the steps of: generating a first clock signal at a radio frequency with a crystal oscillator (col. 31 lines 5-42); generating a third clock signal from the first clock signal output from the crystal oscillator for coupling to converter, the third clock frequency being a lower frequency than a frequency of the first clock signal (col. 31 lines 5-42 and col. 36 lines 15-43); generating a fourth clock signal from the second clock signal for coupling to the microprocessor, said fourth clock signal being a lower frequency than the frequency of the first clock signal and being a higher frequency than the third clock signal (col. 1 lines 52-57).

Haban does not explicitly show that converting digital data output from the microprocessor into digital packet data by the converter; and modulating the digital packet data with the first clock signal in the transmitter for transmitting an RF signal therefrom.

In the same field of endeavor, Moriyama teaches converting digital data output from the microprocessor into digital packet data by the converter (fig. 3 col. 9 lines 50-56); and modulating the digital packet data with the first clock signal in the transmitter for transmitting an RF signal therefrom (fig. 3 col. 9 lines 13-20 and 50-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, converting digital data output from the microprocessor into digital packet data by the converter; and modulating the digital packet data with the first clock signal in the transmitter for transmitting an RF signal therefrom, as taught by Moriyama, in order to provide a cellular radio telecommunications system and a method of operating the same which is low cost on initial installation but allows an easy, economical and planned capacity growth plan.

Haban and Moriyama, in combination, fails to teaches generating a second clock signal using an RC oscillator.

However, Tian teaches generating a second clock signal using an RC oscillator (col. 1 lines 26-37).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Tian into view of Haban and Moriyama, in order to provide frequency of the output signal generated by the oscillator output signal is set as a function of a value of an included internal resistor integrated on the chip. An external resistor may be connected to the chip to allow a user to manipulate the oscillator output signal frequency.

Consider claim 17, Haban further teaches the step of generating a fourth clock signal from the second clock signal comprises the step of frequency-dividing the second clock signal (col. 1 lines 52-57).

Consider claim 18, Tian further teaches the step of tuning an external resistor connected to the RC oscillator for determining the first clock (col. 1 lines 26-37).

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haban in view of Moriyama, and further in view of Yamazaki et al. (U.S PAT. 5,398,007 hereinafter "Yamazaki").

Consider claim 11, Haban and Moriyama, in combination, fails to teaches a peripheral circuit connected to the microprocessor.

However, Yamazaki teaches a peripheral circuit connected to the microprocessor (col. 7 lines 1-6).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Yamazaki into view of Haban and Moriyama, in order to generate accurate baud rates for serial communication in a microcontroller running at a low system clock frequency, without restricting communication to low baud rates, drawing extra current and power, or requiring an extra external resonator.

6. Claims 8-10, 13, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haban in view of Moriyama and Tian, and further in view of Yamazaki et al. (U.S PAT. 5,398,007 hereinafter "Yamazaki").

Consider claim 8, Haban, Moriyama, and Tian, in combination, fails to teaches the RC oscillator comprises a resistor network for determining the second clock signal.

However, Yamazaki teaches the RC oscillator comprises a resistor network for determining the second clock signal (fig. 6 col. 5 lines 49-59).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Yamazaki into view of Haban, Moriyama, and Tian, in order to generate accurate baud rates for serial communication in a microcontroller running at a low system clock frequency, without restricting communication to low baud rates, drawing extra current and power, or requiring an extra external resonator.

Consider claim 9, Yamazaki further teaches the microprocessor signals the local oscillator to turn off after the packets are transmitted (col. 5 lines 15-19).

Consider claim 10, Yamazaki further teaches the converter and transmitter signal the local oscillator to turn off after the packets are transmitted (col. 7 lines 1-6).

Consider claim 13, Yamazaki further teaches the microprocessor, converter, local oscillator, clock switch, RC oscillator and transmitter are integrated on a chip (col. 7 lines 1-6 and col. 2 line 45 through col. 3 line 20).

Consider claim 19, Haban, Moriyama and Tian, in combination, fails to teaches the step of trimming a built-in resistor network connected to the RC oscillator for determining the first clock.

However, Yamazaki teaches the step of trimming a built-in resistor network connected to the RC oscillator for determining the first clock (col. 5 lines 49-59).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Yamazaki into view of Haban, Moriyama and Tian, in order to generate accurate baud rates for serial communication in a microcontroller running at a low system clock frequency, without restricting communication to low baud rates, drawing extra current and power, or requiring an extra external resonator.

Consider claim 20, Yamazaki further teaches the step of signaling the single crystal oscillator to stop generating the third clock after sending out the RF signal (col. 5 lines 15-19).

Consider claim 21, Yamazaki further teaches the step of signaling the converter to turn off after sending out the RF signal (col. 7 lines 1-6).

Consider claim 22, Yamazaki further teaches the step of signaling the transmitter to turn off after sending out the RF signal (col. 7 lines 1-6).

Conclusion

7. Any response to this action should be mailed to:

Mail Stop_____ (Explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(571) 273-8300

Hand-delivered responses should be brought to:

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Randolph Building

401 Dulany Street

Alexandria, VA 22313

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571)272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571)272-7882882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information Consider the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan Nguyen
Examiner
Art Unit 2618

NAY MAUNG
SUPERVISORY PATENT EXAMINER